

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a Minor, Municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards (WQS) of 9 VAC 25-260. The proposed discharge will result from the operation of a municipal sewage treatment plant (SIC Code: 4952 - Sewerage Systems). This permit action consists of reissuing the permit with revisions to the permit, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Facility Name and Address:
Monterey STP
PO Box 460
Monterey, VA 24465
Location: 329 Wilson Avenue, Monterey
2. Permit No. VA0023281; Expiration Date: August 31, 2012
3. Owner: Town of Monterey
Contact Name: Honorable Janice S. Wagner
Title: Mayor
Telephone No: 540-468-2472
4. Description of Treatment Works Treating Domestic Sewage:
Total Number of Outfalls – 1

Monterey STP primarily receives sewage wastewater generated by residents and businesses in the Town of Monterey. The treatment units comprising the recently upgraded STP are shown in the schematics included in the permit reissuance application.

Average Discharge Flow (April 2011 – March 2012) = 0.049 MGD
Design Average Flow = 0.12 MGD

5. Application Complete Date: March 27, 2012

Permit Writer: Eric Millard	Date: 5/24/12
Reviewed By: Dawn Jeffries	Date:

Public Comment Period: _____ to _____

6. Receiving Stream Name: West Strait Creek
River Mile: 3.85
Use Impairment: Yes
Special Standards: pH
Tidal Waters: No
Watershed Name: VAV – B02R Upper South Branch Potomac River
Basin: Potomac; Subbasin: Potomac
Section: 12; Class: IV
7. Operator License Requirements per 9 VAC 25-31-200.C: Class III
8. Reliability Class per 9 VAC 25-790: Class II (assigned March 22, 1982)

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9. Permit Characterization:

- ☐ Private ☐ Federal ☐ State ☒ POTW ☐ PVOTW
☐ Possible Interstate Effect ☐ Interim Limits in Other Document (attach copy of CSO)

10. Discharge Location Description and Receiving Waters Information: Appendix A

11. Antidegradation (AD) Review & Comments per 9 VAC 25-260-30:

Tier Designation: West Strait Creek: Tier 1

The State Water Control Board's WQS include an AD policy. All state surface waters are provided one of three levels of AD protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 waters have water quality that is better than the WQS. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 waters are exceptional waters and are so designated by regulatory amendment. The AD policy prohibits new or expanded discharges into exceptional waters.

The AD review begins with a Tier determination. West Strait Creek downstream of the facility discharge location is determined to be Tier 1 because the stream does not meet the General Standard (Benthics) for aquatic life use. AD baselines are not calculated for Tier 1 waters.

12. Site Inspection: Performed by Eric Millard on February 21, 2012

13. Effluent Screening and Effluent Limitations: Appendix B

14. Whole Effluent Toxicity (WET) Program Requirements per 9 VAC 25-31-220.D: N/A; the facility does not have a design flow = 1.0 MGD, does not have an approved pretreatment program, and it is not required to develop a pretreatment program.

15. Sewage sludge utilization and disposal option is transport of sewage sludge to the Augusta Regional Landfill.

16. Bases for Special Conditions: Appendix C

17. Material Storage per 9 VAC 25-31-280.B.2: This permit requires that the facility's O&M Manual include information to address the management of wastes, fluids, and pollutants which may be present at the facility, to avoid unauthorized discharge of such materials.

18. Antibacksliding Review per 9 VAC 25-31-220.L: This permit complies with the antibacksliding provisions of the VPDES Permit Regulation.

19. Impaired Use Status Evaluation per 9 VAC 25-31-220.D: West Strait Creek in the vicinity of the discharge is listed as not meeting the General Standard (Benthics) for aquatic life use. This section of the stream is also listed as having elevated levels of bacteria. A TMDL addressing the benthic impairment includes the following waste load allocations (WLAs) for this discharge:

Sediment: 4.97 Tonnes/yr (based on a design flow of 0.12 MGD and a TSS concentration of 30 mg/L)

Ammonia: 782 kg/yr and seasonally 1.6 kg/d (Jun – Dec) and 2.9 kg/d (Jan – May) (based on a design flow of 0.12 MGD and concentrations of 3.5 mg/L (Jun-Dec) and 6.4 mg/L (Jan-May))

CBOD₅: 11 kg/day (based on a design flow of 0.12 MGD and a concentration of 25 mg/L)

A TMDL addressing the bacteria impairment has not been prepared. The permit contains a re-opener condition that may allow the permit limits to be modified, in compliance with section 303(d)(4) of the Act once a TMDL is approved.

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20. Regulation of Users per 9 VAC 25-31-280.B.9: N/A – This facility is owned by a municipality.
21. Storm Water Management per 9 VAC 25-31-120: Application Required? ☐ Yes ☒ No
If “No,” check one:
☒ STPs: This facility does not have a design flow ≥ 1.0 MGD, nor is it required to have an approved POTW pretreatment program under 9 VAC 25-31-10 et seq.
☐ Others: This facility's SIC Code(s) and activities do not fall within the categories for which a Storm Water Application submittal is required.
22. Compliance Schedule per 9 VAC 25-31-250: There are no compliance schedules included in the reissued permit.
23. Variances/Alternative Limits or Conditions per 9 VAC 25-31-280.B, 100.J, 100.P, and 100.M: The applicant requested a waiver for sampling pH, Flow Rate, Temperature, BOD₅, Fecal Coliform, TSS, Ammonia-N, TRC, DO, TKN, Nitrate Plus Nitrite, Oil and Grease, TP, and TDS. The requested waivers were accepted based on the justification provided by the permittee.
24. Financial Assurance Applicability per 9 VAC 25: N/A – This facility is owned by a municipality.
25. Virginia Environmental Excellence Program (VEEP) Evaluation per § 10.1-1187.1-7: At the time of this reissuance, is this facility considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level? ☐ Yes ☒ No
26. Nutrient Trading Regulation per 9 VAC 25-820: See Appendix B
General Permit Required: ☐ Yes ☒ No
27. Threatened and Endangered (T&E) Species Screening per 9 VAC 25-260-20 B.8: Because this is not an issuance or reissuance that allows increased discharge flows, T&E screening is not automatically required. However, in accordance with the VPDES Memorandum of Understanding, T&E screening was coordinated on April 25, 2011 through DCR based upon request. Comments were received from DCR on May 21, 2012 and are included in the permit processing file. Comments were considered in the drafting of the permit and were also forwarded to the permittee.
28. Public Notice Information per 9 VAC 25-31-280.B: All pertinent information is on file, and may be inspected and copied by contacting Eric Millard at: DEQ-Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801, Telephone No. (540) 574-7813, eric.millard@deq.virginia.gov.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

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29. Historical Record:

The wastewater treatment plant was initially constructed in the early 1960s, but the date of the first VPDES permit issued to this facility is not available in the files on hand. As early as December 18, 1974, a VPDES permit was issued to this facility on the basis of a design flow of 0.075 MGD. The VPDES permit was reissued on December 31, 1986 for a design flow of 0.12 MGD, but the FS described a “current” design flow for the facility of 0.075 MGD with a “proposed” design flow of 0.12 MGD.

On April 26, 1993, Mayor G.E. McWhorter, Jr., P.E., by letter certified that [wetland bed] filters No. 2 through 6 were put online April 2, 1993; Filter No. 1, the original pilot filter, was cut into the new system on April 7, 1993; and, with these actions, began the acclimation period originally scheduled for September 30, 1992. According to the Mayor, “the plant is now performing all of its design functions, however, the construction contract is not complete at this time.”

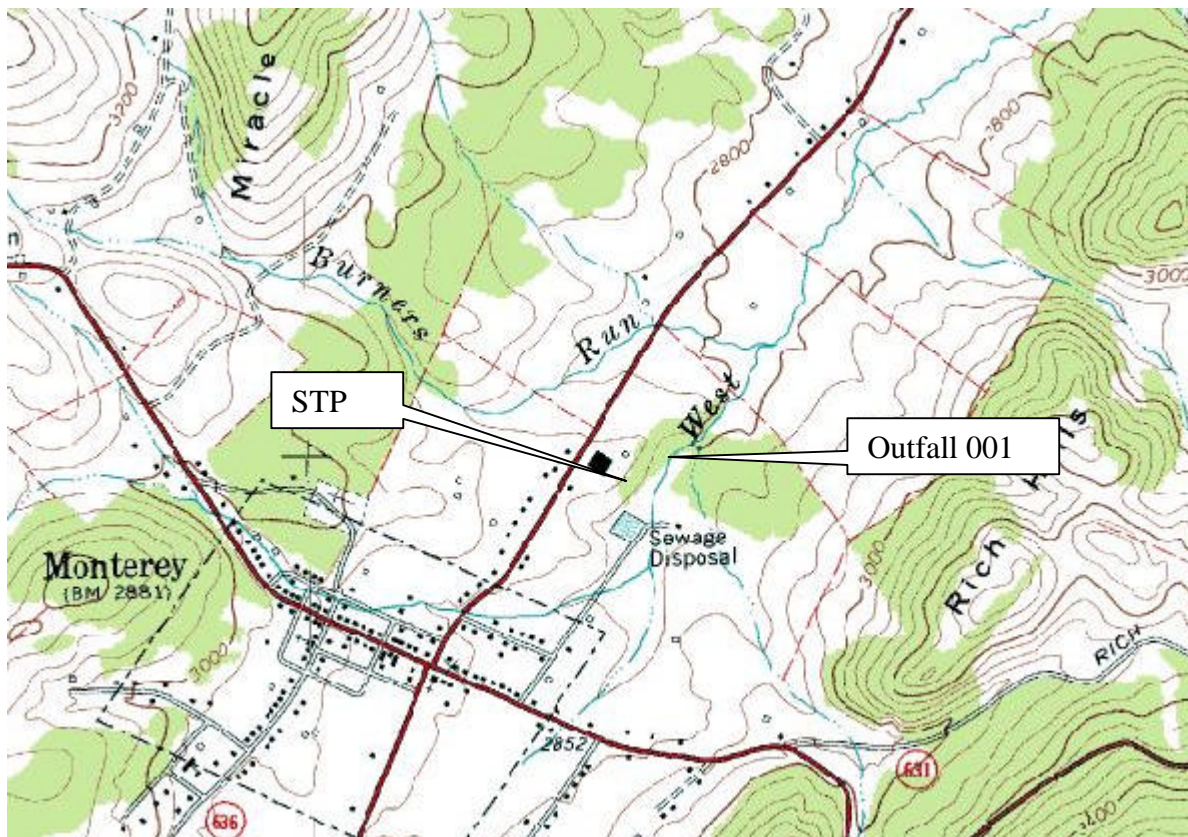
On May 11, 1993, VDH issued a CTO for the upgraded facility.

On August 3, 2010, DEQ issued a CTO for an upgraded facility to a conventional secondary treatment system. The design flow of the upgraded treatment facility is 0.12 MGD.

APPENDIX A

DISCHARGE LOCATION AND RECEIVING WATERS INFORMATION

Monterey STP discharges to West Strait Creek in Highland County. The topographical map below shows the location of the treatment facility and Outfall 001.



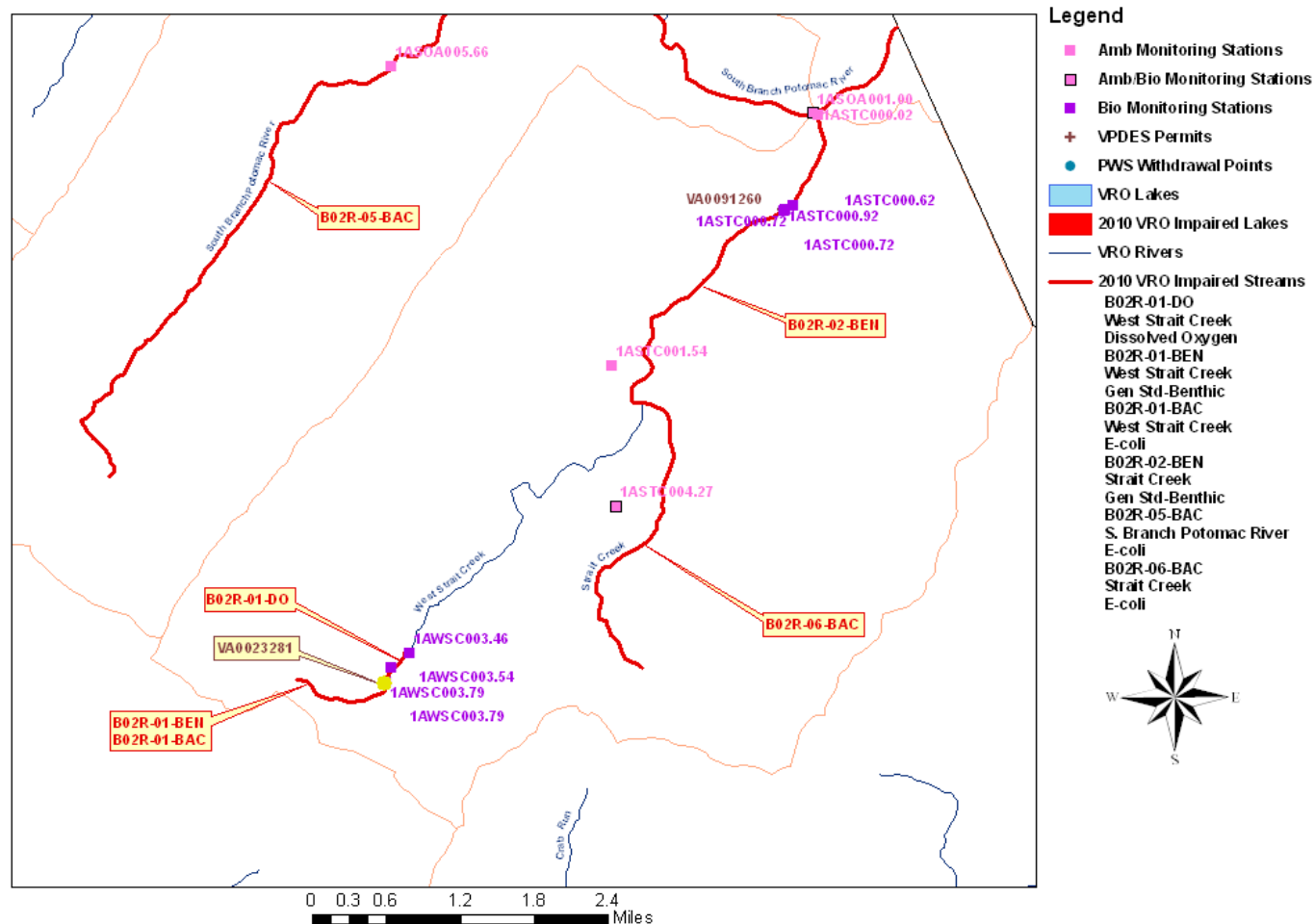
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PLANNING INFORMATION

Relevant points of interest within the watershed and in the vicinity of the discharge are shown on the Water Quality Assessment TMDL Review table and corresponding map below.

WATER QUALITY ASSESSMENTS REVIEW						
POTOMAC-SHENANDOAH RIVER BASIN						
4/12/2012						
IMPAIRED SEGMENTS						
SEGMENT ID	STREAM	SEGMENT START	SEGMENT END	SEGMENT LENGTH	PARAMETER	
B02R-01-BAC	West Strait Creek	4.59	3.74	.85	E-coli	
B02R-01-BEN	West Strait Creek	4.62	3.42	1.2	Benthic	
B02R-01-DO	West Strait Creek	3.74	3.42	.32	Dissolved Oxygen	
B02R-02-BEN	Strait Creek	3.24	0.00	3.24	Benthic	
B02R-05-BAC	South Branch Potomac River	10.16	0.00	10.16	E-coli	
B02R-06-BAC	Strait Creek	6.01	0.00	6.01	E-coli	
PERMITS						
PERMIT	FACILITY	STREAM	RIVER MILE	LAT	LONG	WBID
VA0023281	Monterey STP	West Strait Creek	3.85	382454	0793424	VAV-B02R
VA0091260	Virginia Trout-Monterey	Strait Creek	1	382815	0793050	VAV-B02R
MONITORING STATIONS						
STREAM	NAME	RIVER MILE	RECORD	LAT	LONG	
S. Branch Potomac River	1ASOA005.66	5.66		382915	0793421	
Strait Creek	1ASTC000.02	0.02	07/01/91	382854	0793032	
Strait Creek	1ASTC001.54	1.54	12/13/06	382709	0793222	
S. Branch Potomac River	1ASOA001.00	1	07/01/91	382856	0793034	
Strait Creek	1ASTC004.27	4.27	7/1/97	382609	0793155	
Strait Creek	1ASTC000.62	0.62	11/6/02	382817	0793045	
Strait Creek	1ASTC000.72	0.72	5/1/96	382813	0793052	
Strait Creek	1ASTC000.92	0.09		382814	0793049	
West Strait Creek	1AWSC003.46	3.46		382507	0793411	
West Strait Creek	1AWSC003.54	3.54	10/28/98	382501	0793221	
West Strait Creek	1AWSC003.79	3.79	05/11/95	382449	0793427	
PUBLIC WATER SUPPLY INTAKES						
OWNER	STREAM	RIVER MILE				
None						
WATER QUALITY MANAGEMENT PLANNING REGULATION						
Is this discharge addressed in the WQMP regulation? Yes						
If Yes, what effluent limitations or restrictions does the WQMP regulation impose on this discharge?						
PARAMETER	ALLOCATION					
CBOD	11.4 kg/d					
WATERSHED NAME						
VAV-B02R Upper South Branch Potomac River						

Monterey STP- Water Quality Assessments Review April 12, 2012



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FLOW FREQUENCY DETERMINATION

MEMORANDUM
DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

4411 Early Road – P.O. Box 3000

Harrisonburg, VA 22801

SUBJECT: Flow Frequency Determination
Monterey STP – VPDES Permit No. VA0023281, Highland County

TO: Permit Processing File

FROM: Dawn Jeffries

DATE: December 15, 2011

This memo supersedes Brandon Kiracofe's flow frequency determination dated June 15, 2007. Monterey STP discharges to West Strait Creek near Monterey, VA. Stream flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit reissuance. Since no new flow statistics for the gage are available at this time, previous flow information for gage #01605500 has been carried forward.

The VDEQ conducted flow measurements on West Strait Creek between 1995 and 1999. The measurements were made just upstream of the subject discharge point. The measurements were correlated with the adjusted same-day daily mean values from the continuous record gage on the South Branch Potomac River near Franklin, WV (#01605500). The values were adjusted by subtracting 4.65 cfs because a spring contributes significant flow to Strait Creek between the Monterey STP discharge point and the gage near Franklin approximately 1 mile from the confluence of Strait Creek and the South Branch Potomac River. The spring flow is utilized by Virginia Trout-Monterey (VA0091260) in their fish farm operation. The average discharge flow from Virginia Trout-Monterey, which is 3.0 MGD (4.65 cfs), is considered to represent the flow contribution from the spring. The correlation was done by plotting the measurements and the adjusted daily mean values on a log/log graph, and performing a regression analysis. The measurements correlated well with South Branch Potomac River gage. A best-fit line (and equation) for the data set was established.

The required flow frequencies for West Strait Creek at the measurement site were calculated using the equation of the line and adjusted flow frequencies for the entire period of record of the South Branch Potomac River gage. The gage frequencies were adjusted by subtracting the spring flow contribution. The flow frequencies at the measurement site apply at the discharge point and are presented below. This analysis does not address any other discharges, withdrawals, or springs located between the discharge point and the gage.

South Branch Potomac River near Franklin, WV (#01605500):

Drainage Area = 179 mi²

1Q30 = 16 cfs	High Flow 1Q10 = 28 cfs
1Q10 = 19 cfs	High Flow 7Q10 = 34 cfs
7Q10 = 20 cfs	High Flow 30Q10 = 49 cfs
30Q10 = 23 cfs	HM = 69 cfs
30Q5 = 25 cfs	

West Strait Creek at Monterey STP discharge point (#01605200):

Drainage Area = 1.31 mi²

1Q30 = 0.13 cfs (0.083 mgd)	High Flow 1Q10 = 0.20 cfs (0.13 mgd)
1Q10 = 0.15 cfs (0.096 mgd)	High Flow 7Q10 = 0.23 cfs (0.15 mgd)
7Q10 = 0.16 cfs (0.10 mgd)	High Flow 30Q10 = 0.30 cfs (0.19 mgd)
30Q10 = 0.17 cfs (0.11 mgd)	HM = 0.37 cfs (0.24 mgd)
30Q5 = 0.18 cfs (0.12 mgd)	

The high flow months are January through May.

Reviewer: JRD

Date: 12/19/11

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EFFLUENT/STREAM MIXING EVALUATION

Mixing zone predictions were made with the Virginia DEQ Mixing Zone Analysis Version 2.1 program. The predictions are based on the discharge and receiving stream characteristics, and are presented below.

0.10 MGD Annual Mix	0.12 MGD Annual Mix
<p>Effluent Flow = 0.10 MGD Stream 7Q10 = 0.10 MGD Stream 30Q10 = 0.11 MGD Stream 1Q10 = 0.096 MGD Stream slope = 0.017846 ft/ft Stream width = 4 ft Bottom scale = 3 Channel scale = 1</p> <hr/> <p>Mixing Zone Predictions @ 7Q10 Depth = .1555 ft Length = 68.54 ft Velocity = .4978 ft/sec Residence Time = .0016 days Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.</p> <hr/> <p>Mixing Zone Predictions @ 30Q10 Depth = .1602 ft Length = 66.76 ft Velocity = .5071 ft/sec Residence Time = .0015 days Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.</p> <hr/> <p>Mixing Zone Predictions @ 1Q10 Depth = .1535 ft Length = 69.35 ft Velocity = .494 ft/sec Residence Time = .039 hours Recommendation: A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.</p>	<p>Effluent Flow = 0.12 MGD Stream 7Q10 = 0.10 MGD Stream 30Q10 = 0.11 MGD Stream 1Q10 = 0.096 MGD Stream slope = 0.017846 ft/ft Stream width = 4 ft Bottom scale = 3 Channel scale = 1</p> <hr/> <p>Mixing Zone Predictions @ 7Q10 Depth = .1649 ft Length = 65.08 ft Velocity = .5162 ft/sec Residence Time = .0015 days Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.</p> <hr/> <p>Mixing Zone Predictions @ 30Q10 Depth = .1695 ft Length = 63.51 ft Velocity = .525 ft/sec Residence Time = .0014 days Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.</p> <hr/> <p>Mixing Zone Predictions @ 1Q10 Depth = .163 ft Length = 65.74 ft Velocity = .5126 ft/sec Residence Time = .0356 hours Recommendation: A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.</p>
0.10 MGD Wet Season Mix	0.12 MGD Wet Season Mix
<p>Effluent Flow = 0.10 MGD Stream 7Q10 = 0.15 MGD Stream 30Q10 = 0.19 MGD Stream 1Q10 = 0.13 MGD Stream slope = 0.017846 ft/ft Stream width = 4.5 ft Bottom scale = 3 Channel scale = 1</p> <hr/> <p>Mixing Zone Predictions @ 7Q10 Depth = .1654 ft Length = 82.62 ft Velocity = .52 ft/sec Residence Time = .0018 days Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.</p> <hr/> <p>Mixing Zone Predictions @ 30Q10 Depth = .1812 ft Length = 76.22 ft Velocity = .5503 ft/sec Residence Time = .0016 days Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.</p> <hr/> <p>Mixing Zone Predictions @ 1Q10 Depth = .1569 ft Length = 86.56 ft Velocity = .5037 ft/sec Residence Time = .0477 hours Recommendation: A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.</p>	<p>Effluent Flow = 0.12 MGD Stream 7Q10 = 0.15 MGD Stream 30Q10 = 0.19 MGD Stream 1Q10 = 0.13 MGD Stream slope = 0.017846 ft/ft Stream width = 4.5 ft Bottom scale = 3 Channel scale = 1</p> <hr/> <p>Mixing Zone Predictions @ 7Q10 Depth = .1734 ft Length = 79.24 ft Velocity = .5356 ft/sec Residence Time = .0017 days Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.</p> <hr/> <p>Mixing Zone Predictions @ 30Q10 Depth = .1889 ft Length = 73.48 ft Velocity = .5645 ft/sec Residence Time = .0015 days Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.</p> <hr/> <p>Mixing Zone Predictions @ 1Q10 Depth = .1654 ft Length = 82.62 ft Velocity = .52 ft/sec Residence Time = .0441 hours Recommendation: A complete mix assumption is appropriate for this situation and the entire 1Q10 may be used.</p>

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APPENDIX B

EFFLUENT SCREENING AND EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS

A comparison of technology and water quality-based limits was performed and the most stringent limits were selected, as summarized in the table below.

Outfall 001

Final Limits

Permitted Flow Tier: 0.10 MGD

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average		Maximum		Frequency	Sample Type
Flow (MGD)	1	NL		NL		Continuous	TIRE
-----	-----	Monthly Average		Weekly Average		-----	-----
CBOD ₅	2,3,4,5,6	25 mg/L	9.5 kg/d	40 mg/L	15 kg/d	1/Week	4 HC
TSS	2,6	30 mg/L	11 kg/d	45 mg/L	17 kg/d	1/Month	4 HC
Ammonia-N (Jun-Dec)	3,6	6.5 mg/L	1.6 kg/d	9.5 mg/L	2.4 kg/d	1/Week	4 HC
Ammonia-N (Jan-May)	3,6	10 mg/L	2.9 kg/d	15 mg/L	4.4 kg/d	1/Week	4 HC
Effluent Chlorine (TRC)(mg/L)*	3	0.015		0.017		3/Day at 4 hr intervals	Grab
E. coli (N/100 mL) (geometric mean)	3	126		NA		1/Year* or 2 Days/Week** 10 am to 4 pm	Grab
-----	-----	Minimum		Maximum		-----	-----
pH (S.U.)	3	6.5		9.5		1/Day	Grab
Dissolved Oxygen (mg/L)	3,4	5.0		NA		1/Day	Grab
Contact Chlorine (TRC)(mg/L)*	3,7	1.0		NA		3/Day at 4 hr intervals	Grab

NL = No Limitation, monitoring required

NA = Not Applicable

TIRE = Totalizing, Indicating, and Recording equipment

4 HC = 4-Hour Composite

2 Days/Week = 2 samples taken during the calendar week, no less than 48 hours apart

1/Year = Annual sampling with the results submitted with the DMR due January 10th of each year

* = Applicable only when chlorination is used for disinfection

** = Applicable if an alternative to chlorination is used for disinfection.

BASIS DESCRIPTIONS

1. VPDES Permit Regulation (9 VAC 25-31)
2. Federal Effluent Requirements (Secondary Treatment Regulation - 40CFR133)
3. Water Quality Standards (9 VAC 25-260)
4. West Strait Creek Regional Stream Model
5. WQMP Regulation (9 VAC 25-720-50)
6. West Strait Creek TMDL Report
7. Best Professional Judgment (BPJ)

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Outfall 001

Final Limits

Design Flow: 0.12 MGD

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average		Maximum		Frequency	Sample Type
Flow (MGD)	1	NL		NL		Continuous	TIRE
-----	-----	Monthly Average		Weekly Average		-----	-----
CBOD ₅	2,3,4,5,6	25 mg/L	11 kg/d	40 mg/L	18 kg/d	3 Days/Week	8 HC
TSS	2,6	30 mg/L	14 kg/d	45 mg/L	20 kg/d	1/Month	8 HC
Ammonia-N (Jun-Dec)	3,6	4.8 mg/L	1.6 kg/d	6.5 mg/L	2.4 kg/d	3 Days/Week	8 HC
Ammonia-N (Jan-May)	3,6	7.7 mg/L	2.9 kg/d	10 mg/L	4.4 kg/d	3 Days/Week	8 HC
Effluent Chlorine (TRC)(mg/L)*	3	0.013		0.015		3/Day at 4 hr intervals	Grab
E. coli (N/100 mL) (geometric mean)	3	126		NA		1/Year* or 3 Days/Week** 10 am to 4 pm	Grab
-----	-----	Minimum		Maximum		-----	-----
pH (S.U.)	3	6.5		9.5		1/Day	Grab
Dissolved Oxygen (mg/L)	3,4	5.0		NA		1/Day	Grab
Contact Chlorine (TRC)(mg/L)*	3,7	1.0		NA		3/Day at 4 hr intervals	Grab

NL = No Limitation, monitoring required

NA = Not Applicable

TIRE = Totalizing, Indicating, and Recording equipment

8 HC = 8-Hour Composite

2 Days/Week = 3 samples taken during the calendar week, no less than 48 hours apart

1/Year = Annual sampling with the results submitted with the DMR due January 10th of each year

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BASIS DESCRIPTIONS

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7. Best Professional Judgment (BPJ)

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LIMITING FACTORS – OVERVIEW:

The following potential limiting factors have been considered in developing this permit and fact sheet:

Water Quality Management Plan Regulation (WQMP) (9 VAC 25-720)	
A. TMDL limits	CBOD₅, Ammonia-N, TSS
B. Non-TMDL WLAs	CBOD₅
C. CBP (TN & TP) WLAs	None
Federal Effluent Guidelines	CBOD₅, TSS, pH
BPJ/Agency Guidance limits	TRC (contact)
Water Quality-based Limits - numeric	cBOD₅, DO, TRC (effluent), E. coli, pH, Ammonia-N
Water Quality-based Limits - narrative	None
Technology-based Limits (9 VAC 25-40-70)	None
Whole Effluent Toxicity (WET)	None
Storm Water Limits	None

EVALUATION OF THE EFFLUENT – CONVENTIONAL POLLUTANTS:

The discharge from this facility was previously modeled using the Regional Stream Model. The discharge was remodeled at this reissuance to include updated stream and effluent information, and to model the additional 0.10 MGD flow tier.

The following limits were demonstrated to be protective:

	0.10 MGD	0.12 MGD
CBOD ₅ (mg/L)	25	25
TKN (mg/L)	9.4	8.8
DO (mg/L)	5.0	5.0

The Regional Stream Model for West Strait Creek is maintained in the DEQ receiving stream DO model file.

Monthly average CBOD₅ and TSS loading limits for the two flow tiers were calculated to be:

	0.10 MGD	0.12 MGD
CBOD ₅ (kg/d)	9.5	11
TSS (kg/d)	11	14

The Potomac-Shenandoah River Basin WQMP and the West Strait Creek TMDL specify the following monthly average CBOD₅ limits for Monterey STP:

	WQMP Loading Limits	TMDL WLA
CBOD ₅ (kg/d)	11.4	11

CBOD₅ limits have been determined to be necessary for the 0.10 MGD and 0.12 MGD flow tiers. The CBOD₅ concentration and loading limits have been carried forward from the previous permit at the 0.12 MGD flow tier. As indicated by the tables above, the loading limits for CBOD₅ that have been imposed in the permit do not exceed the WQMP loading limit or TMDL WLA. The monitoring frequency is established as 1/Week for the 0.10 MGD flow tier and 3 Days/Week at the 0.12 MGD design flow.

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The TKN concentrations used for the model input were derived from the most restrictive WLA for Ammonia-N multiplied by 2. Because the permit contains concentration limits for Ammonia-N (based on toxicity) and loading limits based on more restrictive concentration than determined necessary to protect the receiving stream from toxicity (TMDL), TKN will be adequately controlled in the discharge and no TKN limits are included in the permit.

The DO limits have been carried forward from the previous permit.

The TSS limits are consistent with the Secondary Treatment Regulation and have been carried forward from the previous permit. The limits imposed comply with the West Strait Creek TMDL WLA.

The pH limits reflect the current WQS for pH in the receiving stream and have been carried forward from the previous permit.

EVALUATION OF THE EFFLUENT – DISINFECTION:

The facility has installed UV disinfection. The monitoring frequency is 2 Days/Week at the 0.10 MGD flow tier and 3 Days/Week at the 0.12 MGD design flow tier. TRC limits have been included in the permit and are effective if chlorination is used for disinfection. In addition to the minimum TRC contact requirements, E. coli monitoring at a frequency of 1/Year and an associated limit have been included at this reissuance to ensure effective disinfection is achieved if chlorination is used for disinfection.

EVALUATION OF THE EFFLUENT – NUTRIENTS:

Pursuant to section 62.1-44.19:12-:19 of the law, Total Nitrogen (TN) and Total Phosphorus (TP) baselines are being established for this facility to represent nutrient discharge allowances as of July 1, 2005. Once established, these baselines will be used as a limiting factor should the facility ever expand or have a significant increase in effluent TN or TP concentrations. For municipal facilities, the baselines are based on the permitted design capacity of the facility.

The permitted design capacity is defined as

$$\text{Total N or P (lb/yr)} = \text{concentration (mg/L)} \times \text{design flow (mgd)} \times 8.3438 \times 365 \text{ (days/yr)}$$

where:

Design flow – as of July 1, 2005, the approved flow was 0.12 MGD

Concentration – the treatment provided as of July 1, 2005 was TN = 18.7 mg/L and TP = 2.5 mg/L (assumed concentrations based on secondary treatment facility)

$$\text{TN baseline} = 18.7 \text{ mg/l} \times 0.12 \text{ MGD} \times 8.3438 \times 365 \text{ days/yr} = 6,834 \text{ lb/yr}$$

$$\text{TP baseline} = 2.5 \text{ mg/l} \times 0.12 \text{ MGD} \times 8.3438 \times 365 \text{ days/yr} = 914 \text{ lb/yr}$$

EVALUATION OF THE EFFLUENT – TOXICS:

Stream: Water quality data for the receiving stream were obtained from Ambient Monitoring Station No. 1ASTC000.02 on Strait Creek at S.R. 625 crossing. A Flow Frequency Determination for the receiving stream was generated December 15, 2011, and is included in Appendix A. The “Wet Season” or “High Flow” months are January through May.

Stream Information			
90% Annual Temp (°C) =	19.9	90% pH (SU) =	9.1
90% Wet Temp (°C) =	17.2	10% pH (SU) =	8.0
Mean Hardness (mg/L) =	76.5		

All toxic pollutants, including Ammonia-N and TRC, are assumed absent in the receiving stream because there are no data for these parameters directly above the discharge.

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Discharge: The pH and hardness values were obtained from data submitted by the permittee. The effluent temperature values were carried forward from the previous permit because there is new information is available. A requirement to monitor temperature on a daily basis and record the result on the daily operating logs has been added to the O&M Manual special condition in the permit.

Effluent Information			
90% Annual Temp (°C) =	23.3	90% pH (SU) =	7.4
90% Wet Temp (°C) =	16.7	10% pH (SU) =	6.7
Mean Hardness (mg/L) =	163.3		

WQC and WLAs were calculated for the WQS parameters for which data are available. The resulting WQC and WLAs are presented in this appendix. Current agency guidelines recommends the evaluation of toxic pollutant limits for TRC and Ammonia-N be based on default effluent concentrations of 20 mg/L and 9 mg/L, respectively. The effluent data were analyzed per the protocol for evaluation of effluent toxic pollutants included in this appendix with the following results:

- TRC: More stringent limits were determined to be necessary at the 0.12 MGD flow tier. This change is due to an increase in the monitoring frequency from 1/Day to 3/Day, as specified by current DEQ Guidance. Monterey STP utilizes UV disinfection, and as such, no compliance schedule has been included to meet the more stringent limits.
- Ammonia-N: Less stringent Ammonia-N limits have been determined to be necessary at the 0.12 MGD flow tier. This change is due to decreased receiving stream 90th percentile annual temperature and decreased effluent annual and wet season 90th percentile pH. The less stringent Ammonia-N concentration limits are compliant with the antibacksliding regulation based on new receiving stream and effluent information. Ammonia-N loading limits have been included at this reissuance based on the seasonal WLAs assigned to this facility in the West Strait Creek TMDL. The Ammonia-N loading limits in the TMDL are based on a design flow of 0.12 MGD and concentrations of 3.5 mg/L (annual) and 6.4 mg/L (wet season).
- Additional monitoring data is needed for a number of pollutants due to the lack of effluent quality data. The permittee must monitor the effluent at Outfall 001 for the substances noted in Attachment A of the permit once within one year from the permit's effective date.

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WQC-WLA SPREADSHEET INPUT – 0.12 MGD

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name:

Monterey STP

Receiving Stream:

West Strait Creek

Permit No.: VA0023281

Date: 5/22/2012

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO₃) = 76.5 mg/L
 90% Temperature (Annual) = 19.9 deg C
 90% Temperature (Wet season) = 17.2 deg C
 90% Maximum pH = 9.1 SU
 10% Maximum pH = 8 SU
 Tier Designation = 1
 Public Water Supply (PWS) Y/N? = N
 V(alley) or P(iedmont)? = V
 Trout Present Y/N? = N
 Early Life Stages Present Y/N? = Y

Stream Flows

1Q10 (Annual) = 0.096 MGD
 7Q10 (Annual) = 0.1 MGD
 30Q10 (Annual) = 0.11 MGD
 1Q10 (Wet season) = 0.13 MGD
 30Q10 (Wet season) = 0.19 MGD
 30Q5 = 0.12 MGD
 Harmonic Mean = 0.24 MGD

Mixing Information

Annual - 1Q10 Flow = 100 %
 - 7Q10 Flow = 100 %
 - 30Q10 Flow = 100 %
 Wet Season - 1Q10 Flow = 100 %
 - 30Q10 Flow = 100 %

Effluent Information

Mean Hardness (as CaCO₃) = 163.3 mg/L
 90% Temp (Annual) = 23.3 deg C
 90% Temp (Wet season) = 16.7 deg C
 90% Maximum pH = 7.4 SU
 10% Maximum pH = 6.7 SU
 Current Discharge Flow = 0.120 MGD
 Discharge Flow for Limit Analysis = 0.120 MGD

Footnotes:

- All concentrations expressed as micrograms/ liter (ug/l), unless noted otherwise.
- All flow values are expressed as Million Gallons per Day (MGD).
- Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
- Hardness expressed as mg/l CaCO₃. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO₃.
- "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
- Carcinogen "Y" indicates carcinogenic parameter.
- Ammonia WQSs selected from separate tables, based on pH and temperature.
- Metals measured as Dissolved, unless specified otherwise.
- WLA = Waste Load Allocation (based on standards).
- WLA = Waste Load Allocation (based on standards).
- WLAs are based on mass balances (less background, if data exist).
- Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
- Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
- Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
- Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

WQC-WLA SPREADSHEET OUTPUT – 0.12 MGD

Facility Name:

Monterey STP

Receiving Stream:

West Strait Creek

Permit No.:

VA0023281

Date:

5/22/2012

WATER QUALITY CRITERIA

0.120 MGD Discharge Flow - Mix per "Mixer"

Toxic Parameter and Form	Carcinogen?	Human Health			
		Aquatic Protection		Public Water	Other Surface
		Acute	Chronic	Supplies	Waters
Ammonia-N (Annual)	N	1.6E+01 mg/L	2.3E+00 mg/L	None	None
Ammonia-N (Wet Season)	N	1.4E+01 mg/L	2.7E+00 mg/L	None	None
Antimony	N	None	None	5.6E+00	6.4E+02
Arsenic	N	3.4E+02	1.5E+02	1.0E+01	None
Chlordane	Y	2.4E+00	4.3E-03	8.0E-03	8.1E-03
Chloride	N	8.6E+02 mg/L	2.3E+02 mg/L	2.5E+02 mg/L	None
Chlorine, Total Residual	N	1.9E-02 mg/L	1.1E-02 mg/L	None	None
Chromium (+3)	N	6.8E+02	8.8E+01	None	None
Chromium (+6)	N	1.6E+01	1.1E+01	None	None
Copper	N	1.7E+01	1.1E+01	1.3E+03	None
DDD	Y	None	None	3.1E-03	3.1E-03
DDT	Y	1.1E+00	1.0E-03	2.2E-03	2.2E-03
Beta-Endosulfan	N	2.2E-01	5.6E-02	6.2E+01	8.9E+01
Endosulfan Sulfate	N	None	None	6.2E+01	8.9E+01
Endrin	N	8.6E-02	3.6E-02	5.9E-02	6.0E-02
Lead	N	1.6E+02	1.8E+01	1.5E+01	None
Nickel	N	2.2E+02	2.4E+01	6.1E+02	4.6E+03
Silver	N	5.0E+00	None	None	None
Thallium	N	None	None	2.4E-01	4.7E-01
Zinc	N	1.4E+02	1.4E+02	7.4E+03	2.6E+04

NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS

0.120 MGD Discharge - Mix per "Mixer"

Toxic Parameter and Form	Carcinogen?	Human Health			
		Aquatic Protection		Public Water	Other Surface
		Acute	Chronic	Supplies	Waters
Ammonia-N (Annual)	N	2.8E+01 mg/L	4.4E+00 mg/L	None	None
Ammonia-N (Wet Season)	N	3.0E+01 mg/L	7.0E+00 mg/L	None	None
Antimony	N	N/A	N/A	5.6E+00	6.4E+02
Arsenic	N	6.1E+02	2.8E+02	1.0E+01	None
Chlordane	Y	4.3E+00	7.9E-03	8.0E-03	8.1E-03
Chloride	N	1.5E+03 mg/L	4.2E+02 mg/L	2.5E+02 mg/L	None
Chlorine, Total Residual	N	3.4E-02 mg/L	2.0E-02 mg/L	None	None
Chromium (+3)	N	1.2E+03	1.6E+02	None	None
Chromium (+6)	N	2.9E+01	2.0E+01	None	None
Copper	N	3.0E+01	2.0E+01	1.3E+03	None
DDD	Y	N/A	N/A	3.1E-03	3.1E-03
DDT	Y	2.0E+00	1.8E-03	2.2E-03	2.2E-03
Beta-Endosulfan	N	4.0E-01	1.0E-01	6.2E+01	8.9E+01
Endosulfan Sulfate	N	N/A	N/A	6.2E+01	8.9E+01
Endrin	N	1.5E-01	6.6E-02	5.9E-02	6.0E-02
Lead	N	2.8E+02	3.3E+01	1.5E+01	None
Nickel	N	4.0E+02	4.5E+01	6.1E+02	4.6E+03
Silver	N	9.1E+00	N/A	None	None
Thallium	N	N/A	N/A	2.4E-01	4.7E-01
Zinc	N	2.5E+02	2.6E+02	7.4E+03	2.6E+04

Fact Sheet – VPDES Permit No. VA0023281 – Monterey STP

WQC-WLA SPREADSHEET INPUT – 0.10 MGD

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name:

Monterey STP

Receiving Stream:

West Strait Creek

Permit No.: VA0023281

Date: 5/22/2012

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO₃) = 76.5 mg/L
 90% Temperature (Annual) = 19.9 deg C
 90% Temperature (Wet season) = 17.2 deg C
 90% Maximum pH = 9.1 SU
 10% Maximum pH = 8 SU
 Tier Designation = 1
 Public Water Supply (PWS) Y/N? = N
 V(alley) or P(iedmont)? = V
 Trout Present Y/N? = N
 Early Life Stages Present Y/N? = Y

Stream Flows

1Q10 (Annual) = 0.096 MGD
 7Q10 (Annual) = 0.1 MGD
 30Q10 (Annual) = 0.11 MGD
 1Q10 (Wet season) = 0.13 MGD
 30Q10 (Wet season) = 0.19 MGD
 30Q5 = 0.12 MGD
 Harmonic Mean = 0.24 MGD

Mixing Information

Annual - 1Q10 Flow = 100 %
 - 7Q10 Flow = 100 %
 - 30Q10 Flow = 100 %
 Wet Season - 1Q10 Flow = 100 %
 - 30Q10 Flow = 100 %

Effluent Information

Mean Hardness (as CaCO₃) = 163.3 mg/L
 90% Temp (Annual) = 23.3 deg C
 90% Temp (Wet season) = 16.7 deg C
 90% Maximum pH = 7.4 SU
 10% Maximum pH = 6.7 SU
 Current Discharge Flow = 0.120 MGD
 Discharge Flow for Limit Analysis = 0.100 MGD

Footnotes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise.
- All flow values are expressed as Million Gallons per Day (MGD).
- Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
- Hardness expressed as mg/l CaCO₃. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO₃.
- "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
- Carcinogen "Y" indicates carcinogenic parameter.
- Ammonia WQSs selected from separate tables, based on pH and temperature.
- Metals measured as Dissolved, unless specified otherwise.
- WLA = Waste Load Allocation (based on standards).
- WLA = Waste Load Allocation (based on standards).
- WLAs are based on mass balances (less background, if data exist).
- Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
- Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
- Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
- Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

WQC-WLA SPREADSHEET OUTPUT – 0.10 MGD

Facility Name:

Monterey STP

Receiving Stream:

West Strait Creek

Permit No.:

VA0023281

Date:

5/22/2012

WATER QUALITY CRITERIA

0.100 MGD Discharge Flow - Mix per "Mixer"

Human Health

Public Water

Other Surface

Supplies

Waters

Aquatic Protection

Acute

Chronic

1.5E+01 mg/L

2.2E+00 mg/L

1.3E+01 mg/L

2.6E+00 mg/L

1.9E-02 mg/L

1.1E-02 mg/L

None

None

None

None

None

None

NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS

0.100 MGD Discharge - Mix per "Mixer"

Aquatic Protection

Acute

Chronic

2.9E+01 mg/L

4.7E+00 mg/L

3.0E+01 mg/L

7.4E+00 mg/L

3.7E-02 mg/L

2.2E-02 mg/L

Human

Health

N/A

N/A

N/A

Toxic Parameter and Form

Carcinogen?

Ammonia-N (Annual)

N

Ammonia-N (Wet Season)

N

Chlorine, Total Residual

N

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PROTOCOL FOR THE EVALUATION OF THE EFFLUENT – TOXIC POLLUTANTS

Toxic pollutants were evaluated in accordance with OWP Guidance Memo No. 00-2011. Acute and Chronic WLAs (WLA_a and WLA_c) were analyzed according to the protocol below using a statistical approach (STAT.exe) to determine the necessity and magnitude of limits. Human Health WLAs (WLA_{hh}) were analyzed according to the same protocol through a simple comparison with the effluent data. If the WLA_{hh} exceeded the effluent datum or data mean, no limits were required. If the effluent datum or data mean exceeded the WLA_{hh} , the WLA_{hh} was imposed as the limit. Since there are no data available immediately upstream of this discharge, all other upstream (background) pollutant concentrations are assumed to be "0".

The steps used in evaluating the effluent data are as follows:

- A. If all data are reported as "below detection" or $<$ the required Quantification Level (QL), and at least one detection level is = the required QL, then the pollutant is considered to be not significantly present in the discharge and no further monitoring is required.
- B. If all data are reported as "below detection", and all detection levels are $>$ the required QL, then an evaluation is performed in which the pollutant is assumed present at the lowest reported detection level.
 - B.1. If the evaluation indicates that no limits are needed, then the existing data set is adequate and no further monitoring is required.
 - B.2. If the evaluation indicates that limits are needed, then the existing data set is inadequate to make a determination and additional monitoring is required.
- C. If any data value is reported as detectable at or above the required QL, then the data are adequate to determine whether effluent limits are needed.
 - C.1. If the evaluation indicates that no limits are needed, then no further monitoring is required.
 - C.2. If the evaluation indicates that limits are needed, then the limits and associated requirements are specified in the draft permit.
 - C.3. If the evaluation indicates that limits are needed, but the metals data are reported as a form other than "Dissolved", then the existing data set is inadequate to make a determination and additional monitoring is required.

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TOXLARGE – 0.12 MGD Flow Tier

Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
METALS					
Antimony, dissolved	7440-36-0	0.2	<2	a	B.1
Arsenic, dissolved	7440-38-2	1.0	<2	a	B.1
Barium, dissolved	7440-39-3	---	Applicable to PWS waters only	---	---
Cadmium, dissolved	7440-43-9	0.3	<0.2	a	A
Chromium III, dissolved	16065-83-1	0.5	<2	a	B.1
Chromium VI, dissolved	18540-29-9	0.5	<10	a	B.1
Chromium, Total	7440-47-3	---	Applicable to PWS waters only	---	---
Copper, dissolved	7440-50-8	0.5	<2	a	B.1
Iron, dissolved	7439-89-6	1.0	Applicable to PWS waters only	---	---
Lead, dissolved	7439-92-1	0.5	<2	a	B.1
Manganese, dissolved	7439-96-5	0.2	Applicable to PWS waters only	---	---
Mercury, dissolved	7439-97-6	1.0	<0.2	a	A
Nickel, dissolved	7440-02-0	0.5	<20	a	B.1
Selenium, total recoverable	7782-49-2	2.0	<2	a	A
Silver, dissolved	7440-22-4	0.2	<1	a	B.1
Thallium, dissolved	7440-28-0	---	<2	a	B.1
Zinc, dissolved	7440-66-6	2.0	<20	a	B.1
PESTICIDES/PCBS					
Aldrin ^C	309-00-2	0.05	<0.050	a	A
Chlordane ^C	57-74-9	0.2	<1.0	a	B.2
Chlorpyrifos	2921-88-2	---	<1.0	a	A
DDD ^C	72-54-8	0.1	<0.15	a	B.2
DDE ^C	72-55-9	0.1	<0.050	a	A
DDT ^C	50-29-3	0.1	<0.15	a	B.2
Demeton	8065-48-3	---	<2.0	a	A
Diazinon	333-41-5	---	<1.0	a	A
2,4-Dichlorophenoxy acetic acid (synonym = 2,4-D)	94-75-7	---	Applicable to PWS waters only	---	---
Dieldrin ^C	60-57-1	0.1	<0.050	a	A
Alpha-Endosulfan	959-98-8	0.1	<0.050	a	A
Beta-Endosulfan	33213-65-9	0.1	<0.15	a	B.2
Alpha-Endosulfan + Beta-Endosulfan		---	<0.20	a	A
Endosulfan Sulfate	1031-07-8	0.1	<0.15	a	B.1
Endrin	72-20-8	0.1	<0.15	a	B.2
Endrin Aldehyde	7421-93-4	---	<0.20	a	A
Guthion	86-50-0	---	<2.0	a	A
Heptachlor ^C	76-44-8	0.05	<0.050	a	A
Heptachlor Epoxide ^C	1024-57-3	---	<0.050	a	A
Hexachlorocyclohexane Alpha-BHC ^C	319-84-6	---	<0.040	a	A
Hexachlorocyclohexane Beta-BHC ^C	319-85-7	---	<0.050	a	A
Hexachlorocyclohexane Gamma-BHC (synonym = Lindane)	58-89-9	---	<0.040	a	A

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Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
Kepone	143-50-0	---	No data. Monitoring required.	--	--
Malathion	121-75-5	---	<1.0	a	A
Methoxychlor	72-43-5	---	<0.40	a	A
Mirex	2385-85-5	---	No data. Monitoring required.	--	--
Parathion	56-38-2	---	<2.0	a	A
PCB Total ^C	1336-36-3	7.0	<7	a	A
Toxaphene ^C	8001-35-2	5.0	<1.0	a	A
2-(2,4,5-Trichlorophenoxy) propionic acid (synonym = Silvex)	93-72-1	---	Applicable to PWS waters only	---	---
Tributyltin	60-10-5	---	<0.016	a	A
BASE NEUTRAL EXTRACTABLES					
Acenaphthene	83-32-9	10.0	<10	a	A
Anthracene	120-12-7	10.0	<10	a	A
Benzidine ^C	92-87-5	---	<10	a	A
Benzo (a) anthracene ^C	56-55-3	10.0	<10	a	A
Benzo (b) fluoranthene ^C	205-99-2	10.0	<10	a	A
Benzo (k) fluoranthene ^C	207-08-9	10.0	<10	a	A
Benzo (a) pyrene ^C	50-32-8	10.0	<10	a	A
Bis 2-Chloroethyl Ether ^C	111-44-4	---	<10	a	A
Bis 2-Chloroisopropyl Ether	108-60-1	---	<10	a	A
Bis-2-Ethylhexyl Phthalate ^C	117-81-7	10.0	<10	a	A
Butyl benzyl phthalate	85-68-7	10.0	<10	a	A
2-Chloronaphthalene	91-58-7	---	<10	a	A
Chrysene ^C	218-01-9	10.0	<10	a	A
Dibenz(a,h)anthracene ^C	53-70-3	20.0	<10	a	A
1,2-Dichlorobenzene	95-50-1	10.0	<10	a	A
1,3-Dichlorobenzene	541-73-1	10.0	<10	a	A
1,4-Dichlorobenzene	106-46-7	10.0	<10	a	A
3,3-Dichlorobenzidine ^C	91-94-1	---	<20	a	A
Diethyl phthalate	84-66-2	10.0	<10	a	A
Dimethyl phthalate	131-11-3	---	<10	a	A
Di-n-Butyl Phthalate	84-74-2	10.0	<10	a	A
2,4-Dinitrotoluene	121-14-2	10.0	<10	a	A
1,2-Diphenylhydrazine ^C	122-66-7	---	No data. Monitoring required.	--	--
Fluoranthene	206-44-0	10.0	<10	a	A
Fluorene	86-73-7	10.0	<10	a	A
Hexachlorobenzene ^C	118-74-1	---	<10	a	A
Hexachlorobutadiene ^C	87-68-3	---	<10	a	A
Hexachlorocyclopentadiene	77-47-4	---	<10	a	A
Hexachloroethane ^C	67-72-1	---	<10	a	A
Indeno(1,2,3-cd)pyrene ^C	193-39-5	20.0	<10	a	A
Isophorone ^C	78-59-1	10.0	<10	a	A
Nitrobenzene	98-95-3	10.0	<10	a	A
N-Nitrosodimethylamine ^C	62-75-9	---	<20	a	A
N-Nitrosodi-n-propylamine ^C	621-64-7	---	<10	a	A

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Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
N-Nitrosodiphenylamine ^C	86-30-6	---	<10	a	A
Pyrene	129-00-0	10.0	<10	a	A
1,2,4-Trichlorobenzene	120-82-1	10.0	<10	a	A
VOLATILES					
Acrolein	107-02-8	---	<50	a	A
Acrylonitrile ^C	107-13-1	---	<50	a	A
Benzene ^C	71-43-2	10.0	<5.0	a	A
Bromoform ^C	75-25-2	10.0	<5.0	a	A
Carbon Tetrachloride ^C	56-23-5	10.0	<5.0	a	A
Chlorobenzene	108-90-7	50.0	<5.0	a	A
Chlorodibromomethane ^C	124-48-1	10.0	<5.0	a	A
Chloroform	67-66-3	10.0	<5.0	a	A
Dichlorobromomethane ^C	75-27-4	10.0	<5.0	a	A
1,2-Dichloroethane ^C	107-06-2	10.0	<5.0	a	A
1,1-Dichloroethylene	75-35-4	10.0	<5.0	a	A
1,2-trans-dichloroethylene	156-60-5	---	<5.0	a	A
1,2-Dichloropropane ^C	78-87-5	---	<5.0	a	A
1,3-Dichloropropene ^C	542-75-6	---	<5.0	a	A
Ethylbenzene	100-41-4	10.0	<5.0	a	A
Methyl Bromide	74-83-9	---	<20	a	A
Methylene Chloride ^C	75-09-2	20.0	<5.0	a	A
1,1,2,2-Tetrachloroethane ^C	79-34-5	---	<5.0	a	A
Tetrachloroethylene	127-18-4	10.0	<5.0	a	A
Toluene	10-88-3	10.0	<5.0	a	A
1,1,2-Trichloroethane ^C	79-00-5	---	<5.0	a	A
Trichloroethylene ^C	79-01-6	10.0	<5.0	a	A
Vinyl Chloride ^C	75-01-4	10.0	<10	a	A
RADIONUCLIDES					
Beta Particle & Photon Activity (mrem/yr)	N/A	---	Applicable to PWS waters only	--	--
Combined Radium 226 and 228 (pCi/L)	N/A	---	Applicable to PWS waters only	--	--
Gross Alpha Particle Activity (pCi/L)	N/A	---	Applicable to PWS waters only	--	--
Uranium	N/A	---	Applicable to PWS waters only	--	--
ACID EXTRACTABLES					
2-Chlorophenol	95-57-8	10.0	<10	a	A
2,4-Dichlorophenol	120-83-2	10.0	<10	a	A
2,4-Dimethylphenol	105-67-9	10.0	<10	a	A
2,4-Dinitrophenol	51-28-5	---	<50	a	A
2-Methyl-4,6-Dinitrophenol	534-52-1	---	<50	a	A
Nonylphenol	104-40-51	---	No data. Monitoring required.	--	--
Pentachlorophenol ^C	87-86-5	50.0	<50	a	A
Phenol	108-95-2	10.0	<10	a	A
2,4,6-Trichlorophenol ^C	88-06-2	10.0	<10	a	A

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Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
MISCELLANEOUS					
Ammonia-N (mg/L) (Jun-Dec)	766-41-7	0.2 mg/L	Default = 9 mg/L	b	C.2
Ammonia-N (mg/L) (Jan-May)	766-41-7	0.2 mg/L	Default = 9 mg/L	b	C.2
Chloride (mg/L)	16887-00-6	---	50	a	C.1
TRC (mg/L)	7782-50-5	0.1 mg/L	Default = 20 mg/L	b	C.2
Cyanide, Free	57-12-5	10.0	<10	a	A
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin)	1746-01-6	0.01	Applicable to Paper Mills & Oil Refineries only	--	--
Foaming Agents (as MBAS)	N/A	---	Applicable to PWS waters only	--	--
Hydrogen Sulfide	7783-06-4	---	No data. Monitoring required.	--	--
Nitrate as N (mg/L)	14797-55-8	---	Applicable to PWS waters only	--	--
Sulfate (mg/L)	N/A	---	Applicable to PWS waters only	--	--
Total Dissolved Solids (mg/L)	N/A	---	Applicable to PWS waters only	--	--
Hardness (mg/L as CaCO ₃)	471-34-1	---	163.3	a	N/A

TOXLARGE – 0.10 MGD Flow Tier

Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
Ammonia-N (mg/L) (Jun-Dec)	766-41-7	0.2 mg/L	Default = 9 mg/L	b	C.2
Ammonia-N (mg/L) (Jan-May)	766-41-7	0.2 mg/L	Default = 9 mg/L	b	C.2
TRC (mg/L)	7782-50-5	0.1 mg/L	Default = 20 mg/L	b	C.2

"Type" column indicates a category assigned to the referenced substance (see below):

A = Acid Extractable Organic Compounds
 B = Base/Neutral Extractable Organic Compounds
 M = Metals
 p = PCBs
 P = Pesticides
 R = Radionuclides
 V = Volatile Organic Compounds
 X = Miscellaneous Compounds and Parameters

The **superscript "C"** following the parameter name indicates that the substance is a known or suspected carcinogen; human health criteria at risk level 10⁻⁵.

"Source of Data" codes:

a = permittee monitoring performed in January 2012
 b = default effluent concentration

"Data Evaluation" codes:

See section titled PROTOCOL FOR THE EVALUATION OF EFFLUENT TOXIC POLLUTANTS for an explanation of the code used.

CASRN = Chemical Abstract Service Registry Number for each parameter is referenced in the current Water Quality Standards. A unique numeric identifier designating only one substance. The Chemical Abstract Service is a division of the American Chemical Society.

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STAT.EXE RESULTS – 0.12 MGD Flow Tier:

<p><u>Ammonia-N (Jun-Dec)</u> Chronic averaging period = 30 WLAa = 28 WLAc = 4.4 Q.L. = 0.2 # samples/mo. = 12 # samples/wk. = 3</p> <p>Summary of Statistics: # observations = 1 Expected Value = 9 Variance = 29.16 C.V. = 0.6 97th percentile daily values = 21.9007 97th percentile 4 day average = 14.9741 97th percentile 30 day average= 10.8544 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 8.87774841103177 Average Weekly Limit = 6.49357314473879 Average Monthly Limit = 4.83686325277559</p> <p>The data are: 9</p>	<p><u>Ammonia-N (Jan-May)</u> Chronic averaging period = 30 WLAa = 30 WLAc = 7 Q.L. = 0.2 # samples/mo. = 12 # samples/wk. = 3</p> <p>Summary of Statistics: # observations = 1 Expected Value = 9 Variance = 29.16 C.V. = 0.6 97th percentile daily values = 21.9007 97th percentile 4 day average = 14.9741 97th percentile 30 day average= 10.8544 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 14.1236906539142 Average Weekly Limit = 10.3306845484481 Average Monthly Limit = 7.69500972032481</p> <p>The data are: 9</p>	<p><u>TRC</u> Chronic averaging period = 4 WLAa = 0.034 WLAc = 0.02 Q.L. = 0.1 # samples/mo. = 90 # samples/wk. = 21</p> <p>Summary of Statistics: # observations = 1 Expected Value = 20 Variance = 144 C.V. = 0.6 97th percentile daily values = 48.6683 97th percentile 4 day average = 33.2758 97th percentile 30 day average= 24.1210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 2.92514956810646E-02 Average Weekly Limit = 0.015231568843263 Average Monthly Limit = 1.34507934522203E-02</p> <p>The data are: 20</p>
<p><u>Arsenic, Dissolved</u> Chronic averaging period = 4 WLAa = 610 WLAc = 280 Q.L. = 1 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 2 Variance = 1.44 C.V. = 0.6 97th percentile daily values = 4.86683 97th percentile 4 day average = 3.32758 97th percentile 30 day average= 2.41210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 2</p>	<p><u>Beta-Endosulfan</u> Chronic averaging period = 4 WLAa = 0.4 WLAc = 0.1 Q.L. = 0.1 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = .15 Variance = .0081 C.V. = 0.6 97th percentile daily values = .365012 97th percentile 4 day average = .249568 97th percentile 30 day average= .180907 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 0.146257478405323 Average Weekly Limit = 0.146257478405323 Average Monthly Limit = 0.146257478405323</p> <p>The data are: 0.15</p>	<p><u>Chlordane</u> Chronic averaging period = 4 WLAa = 4.3 WLAc = 0.0079 Q.L. = 0.2 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 1 Variance = .36 C.V. = 0.6 97th percentile daily values = 2.43341 97th percentile 4 day average = 1.66379 97th percentile 30 day average= 1.20605 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 1.15543407940205E-02 Average Weekly Limit = 1.15543407940205E-02 Average Monthly Limit = 1.15543407940205E-02</p> <p>The data are: 1</p>
<p><u>Chloride</u> Chronic averaging period = 4 WLAa = 1500 WLAc = 420 Q.L. = 0 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 50 Variance = 900 C.V. = 0.6 97th percentile daily values = 121.670 97th percentile 4 day average = 83.1895 97th percentile 30 day average= 60.3026 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 50</p>	<p><u>Chromium III, Dissolved</u> Chronic averaging period = 4 WLAa = 1200 WLAc = 160 Q.L. = 0.5 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 2 Variance = 1.44 C.V. = 0.6 97th percentile daily values = 4.86683 97th percentile 4 day average = 3.32758 97th percentile 30 day average= 2.41210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 2</p>	<p><u>Chromium VI, Dissolved</u> Chronic averaging period = 4 WLAa = 29 WLAc = 20 Q.L. = 0.5 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 10 Variance = 36 C.V. = 0.6 97th percentile daily values = 24.3341 97th percentile 4 day average = 16.6379 97th percentile 30 day average= 12.0605 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 10</p>

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STAT.EXE RESULTS – 0.12 MGD Flow Tier:

<p><u>Copper, Dissolved</u> Chronic averaging period = 4 WLAa = 30 WLAc = 20 Q.L. = 0.5 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 2 Variance = 1.44 C.V. = 0.6 97th percentile daily values = 4.86683 97th percentile 4 day average = 3.32758 97th percentile 30 day average= 2.41210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 2</p>	<p><u>DDT</u> Chronic averaging period = 4 WLAa = 2 WLAc = 0.0018 Q.L. = 0.1 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = .15 Variance = .0081 C.V. = 0.6 97th percentile daily values = .365012 97th percentile 4 day average = .249568 97th percentile 30 day average= .180907 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 2.63263461129582E-03 Average Weekly Limit = 2.63263461129582E-03 Average Monthly Limit = 2.63263461129582E-03</p> <p>The data are: 0.15</p>	<p><u>Endrin</u> Chronic averaging period = 4 WLAa = 0.15 WLAc = 0.066 Q.L. = 0.1 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = .15 Variance = .0081 C.V. = 0.6 97th percentile daily values = .365012 97th percentile 4 day average = .249568 97th percentile 30 day average= .180907 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 9.65299357475133E-02 Average Weekly Limit = 9.65299357475133E-02 Average Monthly Limit = 9.65299357475133E-02</p> <p>The data are: 0.15</p>
<p><u>Lead, Dissolved</u> Chronic averaging period = 4 WLAa = 280 WLAc = 33 Q.L. = 0.5 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 2 Variance = 1.44 C.V. = 0.6 97th percentile daily values = 4.86683 97th percentile 4 day average = 3.32758 97th percentile 30 day average= 2.41210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 2</p>	<p><u>Nickel, Dissolved</u> Chronic averaging period = 4 WLAa = 400 WLAc = 45 Q.L. = 0.5 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 20 Variance = 144 C.V. = 0.6 97th percentile daily values = 48.6683 97th percentile 4 day average = 33.2758 97th percentile 30 day average= 24.1210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 20</p>	<p><u>Silver, Dissolved</u> Chronic averaging period = 4 WLAa = 9.1 WLAc = Q.L. = 0.2 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 1 Variance = .36 C.V. = 0.6 97th percentile daily values = 2.43341 97th percentile 4 day average = 1.66379 97th percentile 30 day average= 1.20605 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 1</p>
<p><u>Zinc, Dissolved</u> Chronic averaging period = 4 WLAa = 250 WLAc = 260 Q.L. = 2 # samples/mo. = 1 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 20 Variance = 144 C.V. = 0.6 97th percentile daily values = 48.6683 97th percentile 4 day average = 33.2758 97th percentile 30 day average= 24.1210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>No Limit is required for this material</p> <p>The data are: 20</p>		

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STAT.EXE RESULTS – 0.10 MGD Flow Tier:

<p><u>Ammonia-N (Jun-Dec)</u> Chronic averaging period = 30 WLAa = 29 WLAc = 4.7 Q.L. = 0.2 # samples/mo. = 4 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 9 Variance = 29.16 C.V. = 0.6 97th percentile daily values = 21.9007 97th percentile 4 day average = 14.9741 97th percentile 30 day average= 10.8544 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 9.48304943905666 Average Weekly Limit = 9.48304943905666 Average Monthly Limit = 6.48380482314641</p> <p>The data are: 9</p>	<p><u>Ammonia-N (Jan-May)</u> Chronic averaging period = 30 WLAa = 30 WLAc = 7.4 Q.L. = 0.2 # samples/mo. = 4 # samples/wk. = 1</p> <p>Summary of Statistics: # observations = 1 Expected Value = 9 Variance = 29.16 C.V. = 0.6 97th percentile daily values = 21.9007 97th percentile 4 day average = 14.9741 97th percentile 30 day average= 10.8544 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 14.9307586912807 Average Weekly Limit = 14.9307586912807 Average Monthly Limit = 10.2085437641029</p> <p>The data are: 9</p>	<p><u>TRC</u> Chronic averaging period = 4 WLAa = 0.037 WLAc = 0.022 Q.L. = 0.1 # samples/mo. = 90 # samples/wk. = 21</p> <p>Summary of Statistics: # observations = 1 Expected Value = 20 Variance = 144 C.V. = 0.6 97th percentile daily values = 48.6683 97th percentile 4 day average = 33.2758 97th percentile 30 day average= 24.1210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data</p> <p>A limit is needed based on Chronic Toxicity Maximum Daily Limit = 3.21766452491711E-02 Average Weekly Limit = 1.67547257275893E-02 Average Monthly Limit = 1.47958727974424E-02</p> <p>The data are: 20</p>
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APPENDIX C

BASES FOR PERMIT SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified. Also provided is the basis for each of the permit special conditions.

Cover Page	<ul style="list-style-type: none">• Content and format as prescribed by the VPDES Permit Manual.• Facility location updated
Part I.A.1.	Effluent Limitations and Monitoring Requirements: <i>New requirement.</i> <ul style="list-style-type: none">• Effluent limits and monitoring requirements for requested 0.10 MGD permitted flow tier.
Part I.A.2.	Effluent Limitations and Monitoring Requirements: <i>Updates Part I.A.1. of the previous permit with the following:</i> <ul style="list-style-type: none">• Changes were made to the format and introductory language• Less stringent Ammonia-N concentration limits were included.• Ammonia-N loading limits were added.• E. coli monitoring was added; TRC monitoring was removed.
Part I.B.	Total Residual Chlorine (TRC) Effluent Limitations and Monitoring Requirements: <i>Updates Part I.B. of the previous permit.</i> Specifies both disinfection and effluent limits and monitoring requirements should the permittee elect to switch from alternate disinfection to chlorine disinfection. Required by Sewage Collection and Treatment (SCAT) Regulations and 9 VAC 25-260-170, Bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.
Part I.C.	Effluent Limitations and Monitoring Requirements – Additional Instructions: <i>Updates Part I.C. of the previous permit.</i> The QL for CBOD ₅ was changed from 5 mg/L to 2 mg/L. Authorized by VPDES Permit Regulation, 9 VAC 25-31-190.J.4 and 220.I. This condition is necessary when a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.
Part I.D.	Pretreatment Program Requirements: <i>Updates Part I.D. of the previous permit.</i> VPDES Permit Regulation, 9 VAC 25-31-730 through 900, and 40 CFR part 403 require certain existing and new sources of pollution to meet specified regulations.
Part I.E.1.	95% Capacity Reopener: <i>Identical to Part I.E.1. of the previous permit.</i> Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 4 for certain permits.
Part I.E.2	Indirect Dischargers: <i>Identical to Part I.E.2. of the previous permit.</i> Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 1 for all STPs that receive waste from someone other than the owner of the treatment works.
Part I.E.3.	Materials Handling/Storage: <i>Identical to Part I.E.3. of the previous permit.</i> 9 VAC 25-31-280.B.2. requires that the types and quantities of “wastes, fluids, or pollutants which are ... treated, stored, etc.” be addressed for all permitted facilities.
Part I.E.4.	O&M Manual Requirement: <i>Updates Part I.E.4. of the previous permit.</i> Required by Code of Virginia 62.1-44.19, SCAT Regulations 9 VAC 25-790, and VPDES Permit Regulation 9 VAC 25-31-190 E for all STPs. Added requirement to describe procedures for documenting compliance with the permit requirement that there shall be no discharge of floating solids or visible foam in other than trace amounts. Added requirement to document procedures for monitoring effluent temperature on a daily basis and recording on the daily operational logs.

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- Part I.E.5. **CTC/CTO Requirement:** *Updates Part I.E.5. of the previous permit.* Required by Code of Virginia 62.1-44.19, SCAT Regulations 9 VAC 25-790, and VPDES Permit Regulation 9 VAC 25-31-190 E for all STPs.
- Part I.E.6. **SMP Requirement:** *Updates Part I.E.6. of the previous permit.* VPDES Permit Regulation 9 VAC 25-31-100 P, 220 B 2, and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. Technical requirements are derived from the Virginia Pollution Abatement Permit Regulation (9 VAC 25-32-10 *et seq.*)
- Part I.E.7. **Licensed Operator Requirement:** *Identical to Part I.E.7. of the previous permit.* The VPDES Permit Regulation 9 VAC 25-31-200 C, the Code of Virginia 54.1-2300 *et seq.*, and Rules and Regulations for Waterworks and Wastewater Works Operators 18 VAC 160-20-10 *et seq.*, require licensure of operators.
- Part I.E.8. **Reliability Class:** *Identical to Part I.E.8. of the previous permit.* Required by SCAT Regulations 9 VAC 25-790.
- Part I.E.9. **Water Quality Criteria Monitoring:** *Updates Part I.E.9. of the previous permit.* State Water Control Law at 62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, subpart 131.11. To ensure that water quality criteria are maintained, the permittee is required to analyze the facility's effluent for the substances noted in Attachment A of this VPDES permit.
- Part I.E.10. **Treatment Works Closure Plan:** *Updates Part I.E.10. of the previous permit.* Required for all STPs per the State Water Control Law at 62.1-44.18.C. and 62.1-44.15:1.1., and the SCAT Regulations at 9 VAC 25-790-450.E.. and 9 VAC 25-790-120.E.3.
- Part I.E.11. **Reopeners:** *Identical to Part I.E.11. of the previous permit.*
a. Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.
b. 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.
c. 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.
d. Required by the VPDES Permit Regulation, 9 VAC 25-31-220.C, for all permits issued to STPs.
- Part II **Conditions Applicable to All VPDES Permits:** *Identical to Part II of previous permit.* VPDES Permit Regulation 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed. Part II,A.4. language added for Virginia Environmental Laboratory Accreditation Program (VELAP) per 1 VAC 30, Chapter 45: Certification for Noncommercial Environmental Laboratories, and 1 VAC 30, Chapter 46: Accreditation for Commercial Laboratories.
- Deletions:
- Part I.E.12. **Offset Requirement:** Not necessary if there is no proposed expansion.